Motozi TAGAWA*: **Fern Miscellany** (9)

田川基二*: 羊歯類雑説 (9)

(91) **Microlepia obtusiloba** Hayata, Bot. Mag. Tokyo **23**: 27. 1909, type from Taiwan; Tagawa, Acta Phytotax. Geobot. **5**: 101. 1936, excl. pl.[1] from Isl. Yakusima, Japan; **8**: 166. 1939, excl. Tagawa 1929[2] from Taiwan.—*Microlepia subpinnata* Hayata, Ic. Pl. Form. **4**: 209. f. 141. 1914, type from Taiwan; Tagawa, Acta Phytotax. Geobot. **5**: 101. 1936.—*Microlepia hirsutissima* Hayata, Ic. Pl. Form. **5**: 301. f. 121. 1915, type from Taiwan.

JAPAN. Kyûsyû. Pref. Kagosima: Isl. Yakusima, terrestrial among thickets in densely wooded humid ravine at lower elevation: along the Tainokô, Tagawa 7722, 7723, 7724, 8381; ibid., Iwatsuki 2975; en route from Onoaida to Mt. Wariisi, Tagawa 8345; along the Suzunokô, Tagawa 8274. All preserved in KYO.

New to the flora of Japan, previously known from Taiwan and the Ryûkyû Islands. Tagawa 7722, 7723, 8274, 8345, 8381, and Iwatsuki 2975 agree with *M. subpinnata* and Tagawa 7724 with *M. obtusiloba*. Additional specimens in KYO examined by the writer and not cited in his earlier papers are:

TAIWAN. Prov. Taihoku: Urai, Faurie s. n., Apr. 1914; ibid., Faurie s. n. March 1914. Prov. Taitô: near Zyomoru, Taitô-gun, Tagawa 2876; near Baribugai, Taitô-gun, Tagawa 2676, 2706; near Tyôkakurai, Taitô-gun, Taitô-gun, Tagawa 2549, 2620, 2624; ibid., Ogata s. n., July 1, 1931.

Like all big species of this genus, *M. obtusiloba* is very variable in the degree of cutting, which depends largely on the age of the individual and the size of the fronds. It is evident from a number of specimens examined that the three species described by Hayata intergrade to such an extent that they are not worthy of specific or even varietal recognition.

(92) **Humata trifoliata** Cav., Descr. 273. 1802; C. Chr., Dansk Bot. Ark. **9**-3: 26. 1937; Tagawa, Acta Phytotax. Geobot. **6**: 232. 1937.

CHINA. Hong Kong Island, Y. W. Taam 1594, received as *H. repens* (L. f.) Diels (KYO).

New to continental China, previously known from the Philippines, Taiwan, and

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1 This is *Microlepia yakusimensis* Tagawa, Acta Phytotax. Geobot. **11**: 238. 1942.

2 This is *Microlepia taiwaniana* Tagawa, Acta Phytotax. Geobot, **10**: 199. 1941.

the Ryûkyû Islands.

(93) **Dryopteris shikokiana** (Makino) C. Chr., Ind. Fil. 292. 1905; Tagawa, Acta Phytotax. Geobot. **7**: 199. 1938.—*Nephrodium shikokianum* Makino, Bot. Mag. Tokyo **13**: 62. 1899.—*Ctenitis shikokiana* (Makino) H. Itô in Nakai et Honda, Nov. Fl. Jap. no. 4. 88. 1939.—*Dryopteris hirtosparsa* Christ. Bull. Géogr. Bot. Mans **1909**. mém. XX. 176; Ching, Bull. Fan Mem. Inst. Biol. **8**: 458. 1938.

CHINA. Kweichow: Pin-fa, Cavalerie 2885, Isotype of *D. hirtosparsa* Christ. (KYO).

For a long time *D. shikokiana* was only known from warm districts of Japan. I had recently an opportunity to compare the isotype specimen of *D. hirtosparsa*, hitherto known from Kweichow only, with ample materials of Japanese *D. shikokiana* and found that these two species are conspecific.

D. shikokiana, as well as *D. hendersoni* (Bedd.) C. Chr. and *D. squamiseta* (Hk.) O. Ktze., constitute a distinct group *Dryopteris* subgen. *Nothoperanema* Tagawa (l. c.) characterized mainly by the presence of "*Ctenitis* hairs" on veins and veinlets above. Too much swayed by the "*Ctenitis* hairs", Itô (l.c.) and Copeland[3] are of opinion that *D. shikokiana*, *D. hendersoni* and *D. squamiseta* should be associated with *Ctenitis*. But "*Ctenitis* hairs" found in *Nothoperanema* are not true hairs but, as noticed by Ching (l.c. 457), homologous with extreamly narrowed scales. Further more, deep furrows on the upper side of costae and costules in our fern prove the closer relationship to *Dryopteris* than to *Ctenitis*.

(94) **Asplenium excisum** Pr., Epim. Bot. 74. 1849; Holttum, Ferns of Malaya 439. 1954.—*Asplenium rahaoense* Yabe ex Matsum. et Hayata, Enum. Pl. Form. 605. 1906. nom. nud.—*Asplenium resectum* Sm. var. *rahaoense* (Yabe) Hayata, Mat. Fl. Form. 438. 1911.—*Asplenium unilaterale* Lam. var. *rahaoense* (Yabe) Hayata, Gen. Ind. Fl. Form. 103. 1917.—*Hymenasplenium rahaoense* (Yabe) H. Itô ex Tuyama, Bot. Mag. Tokyo **51**: 126. 1937.

Without hesitation I identify *A. rahaoense* with *A. excisum*. The brief but to the point mention of *A. excisum* given by Holttum (l.c.) seems also lending further strength to the justification of this reduction. *A. rahaoense*,[4] originally described from Taiwan, was later recorded by Christensen[5] from Yunnan and Burma, by Tu-

3 Gen. Fil. 124. 1947.

4 Holotype: Formosa. Prov. Taihoku: inter Urai et Rahao, K. Miyake, Oct. 23, 1899 (TI).

5 Contr. U. S. Nat. Herb. **26**: 305. 1831.

yama (l.c.) from the Bonins, and by Tagawa[6] from Isl. Okinawa, Kwangsi, Tonkin, and Malaya. According to Holttum (l.c.), the range of *A. excisum*, originally described from the Philippines, is said to be from Malaysia to Polynesia, north to Tonkin. On the basis of the following specimen the area of this species is now extended to include Assam:

INDIA. Assam: Thausi forest, G. Mann, Jan. 1888 (KYO).

(95) The impending publication of a primer to the Japanese Pteridophyta has required some change of names. These are set forth below:

Polystichopsis amabilis (Bl.) Tagawa, comb. nov.—*Aspidium amabile* Bl., Enum. 165. 1828.—*Rumohra amabilis* (Bl.) Ching, Sinensia **5**: 41. 1934.

Warm temperate districts of Japan, Quelpaert, central and southern China, India, and southward to Malaysia.

var. **yakusimensis** (H. Itô) Tagawa, comb. nov.—*R. amabilis* var. *yakusimensis* H. Itô, Journ. Jap. Bot. **11**: 574. 1935.

South China, Taiwan, Ryûkyû, and sporadically occurring in southwestern Japan.

Polystichopsis assamica (Kuhn) Tagawa, comb. nov.—*Aspidium assamicum* Kuhn, Linnaea **36**: 108. 1869.—*Rumohra assamica* (Kuhn) Ching, Sinensia **5**: 47. pl. 4-6. 1934.—*Aspidium yoshinagae* Makino, Bot. Mag. Tokyo **13**: 57. 1899.—*Polystichum yoshinagae* (Makino) Makino, Bot. Mag. Tokyo **23**: 144. 1909.

Sikkim to south-west China, also sporadically occurring in southwestern districts of Japan.

Polystichopsis cavalerii (Christ) Tagawa, comb. nov.—*Aspidium cavalerii* Christ, Bull. Ac. Géogr. Bot. Mans. **13**: 116. 1904.—*Rumohra cavalerii* (Christ) Ching, Sinensia **5**: 59. pl. 12. 1934; Tagawa, Journ. Jap. Bot. **12**: 486. 1936.—*Dryopteris sphaerosora* Tagawa, Acta Phytotax. Geobot. **3**: 30. 1934.

South and south-west China and on Isl. Yakusima in Kyûsyû of Japan.

Polystichopsis maximowiczii (Bak.) Tagawa, comb. nov.—*Nephrodium maximowiczii* Bak. in Hook. et Bak., Syn. Fil. ed. 2. 499. 1874.—*Rumohra maximowiczii* (Bak.) Ching, Sinensia **5**: 62. pl. 13. 1934.

Northern and central districts of Japan, southern Korea, and in Quelpaert.

Polystichopsis miqueliana (Maxim.) Tagawa, comb. nov.—*Aspidium miquelianum* Maxim. ex Fr. et Sav., Enum. Pl. Jap. **2**: 240 (nom. nud.), 634. 1879.—*Rumohra miqueliana* (Maxim.) Ching, Sinensia **5**: 67. pl. 17. 1934.—*Leptorumohra*

6 Acta Phytotax. Goebot. **8**: 92. 1939; Journ. Jap. Bot. **23**: 77. 1949.

miqueliana (Maxim.) H. Itô in Nakai et Honda, Nov. Fl. Jap. no. 4. 119. 1939.

Japan throughout and in southern Korea, also reported from Szechwan in China.

Polystichopsis mutica (Fr. et Sav.) Tagawa, comb. nov.—*Aspidium muticum* Fr. et Sav., Enum. Pl. Jap. **2**: 240 (nom. nud.), 635. 1879.—*Rumohra mutica* (Fr. et Sav.) Ching, Sinensia **5**: 65. 1934.

Temperate regions of Japan generally, north to southern Saghalien and the southern Kuriles, also on the summit of Isl. Yakusima in Kyûsyû of Japan.

Polystichopsis nipponica (Ros.) Tagawa, comb. nov.—*Polystichum nipponicum* Ros., Fedde Repert. **13**: 130. 1914.—*Rumohra nipponica* (Ros.) Ching, Sinensia **5**: 50. 1934.

Sporadically occurring in warm districts of Japan, also recorded from Kweichow.

Polystichopsis pseudo-aristata (Tagawa) Tagawa, comb. nov.—*Polystichum pseudo-aristatum* Tagawa, Acta Phytotax. Geobot. **1**: 91. 1932.—*Rumohra pseudo-aristata* (Tagawa) H. Itô, Journ. Jap. Bot. **11**: 577. 1935.—*Rumohra aristata* (Forst.) Ching var. *pseudo-aristata* (Tagawa) H. Itô, Bot. Mag. Tokyo **52**: 588. 1938.

Warm districts of Japan to Taiwan, locally abundant.

Polystichopsis simplicior (Makino) Tagawa, comb. nov.—*Aspidium aristatum* (Forst.) Sw. var. *simplicius* Makino, Bot. Mag. Tokyo **15**: 65. 1901.—*Polystichum simplicius* (Makino) Tagawa, Acta Phytotax. Geobot. **1**: 90. 1932.—*Rumohra simplicior* (Makino) Ching, Sinensia **5**: 43. pl. 2. 1934.

From warm districts of Japan to China, rather rare.

var. **major** (Tagawa) Tagawa, comb. nov.—*P. simplicius* var. *majus* Tagawa, l.c.—*Rumohra simplicior* var. *major* (Tagawa) H. Itô, Journ. Jap. Bot. **11**: 579. 1935.

Warm districts of Japan, rather rare.

Polystichopsis sino-miqueliana (Ching) Tagawa, comb. nov.—*Rumohra sino-miqueliana* Ching, Sinensia **5**: 65, pl. 15. 1934.—*Leptorumohra sino-miqueliana* (Ching) Tagawa, Acta Phytotax. Geobot. **8**: 232. 1939.

Described from Kweichow and Hunan in China, also occurring in several localities in Kyûsyû of Japan.

Polystichopsis standishii (Moore) Tagawa, comb. nov.—*Lastrea standishii* Moore, Gard. Chron. **1863**. 292.—*Rumohra standishii* (Moore) Ching, Sinensia **5**: 64. 1934.

Japan throughout and in Quelpaert, also found on Dagelet Isl. in the Japan sea.

(96) **Equisetum arvense** L. var. **boreale** (Bong.) Rupr., Distrib. Crypt. Vasc. Ross. 19. 1849; Milde, Monogr. Equis. 221. pl. 1, f. 5. 1867; Miyabe & Kudo, Fl. Hokk. Saghal. 45. 1930.—*E. boreale* Bong., Mém. Acad. Sci. Petersb. IV. **2**: 174. 1831.

This variety seems to be distributed throughout Japan, occurring on roadsides, in woods, by streams, etc. in mountainous districts. Diagnosis prepared from Japanese examples is:

Primary branches with three angles and the sheaths with three teeth. Stem erect, 30–40 cm high, the whorls of branches usually restricted to the upper half of the stem, the branches simple, spreading or ascending, 5–15 cm long when fully grown.

Representative specimens in KYO are:

SOUTHERN KURILES. Isl. Shikotan: Kagenoma, Ohwi 536.

JAPAN. Honsyû. Pref. Aomori: Aomori, Faurie 1285. Pref. Nagano: between Inagoyu and Midoriike in the Yatsugataĸe Mountains, alt. c. 1550 m, Tagawa & Iwatsuki 149. Pref. Siga: near Eirakuji Temple, Eirakuji-chô, Iwatsuki 1376. Pref. Kyôto: at the middle elevation of Mt. Mitakesan, north-west of Fukuchiyama-city, Tagawa & Iwatsuki 1518. Pref. Nara: inter Kashiwagi et Konodani-gawa, Kawakami-mura, Yoshino-gun, Murata & Iwatsuki 289. Kyûsyû. Pref. Kagosima: Nagareai in Mt. Shibisan, south of Izumi-city, Iwatsuki 2042.

KOREA. Prov. Kankyô-Hokudô: Seisuiri, Ohwi s. n., June 5, 1930; Mt. Syôsinsan near Yûki, Saitô 8216. Prov. Kankyô-Nandô: Kaketugûri, Ohwi s. n., June 15–19, 1932.

CHINA. Hopeh: Tsinglungkiao, Kanasiro 3630.

(97) **Equisetum palustre** L. f. **verticillatum** Milde, Nova, Acta **26**: 460. 1858.—*E. palustre* L. var. *japɔnicum* Nakai, Bot. Mag. Tokyo **39**: 194. 1925.

Japan, central districts and northward.

Japanese plants are referable to f. *verticillatum* with many long branches in regular whorls. Var. *japɔnicum* may be an individual in which main axis or stem is nearly suppressed and the numerous, slender, simple or branched, erect stems or branches are densely clustered near the base of suppressed main axis.

(98) **Equisetum hyemale** L. var. **schleicheri** Milde, Ann. Lugd. Bat. **1**: 68. 1863; Monogr. Equis. 521. 1867; Nakai, Bot. Mag. Tokyo **39**: 194. 1925.

Sheaths of fully grown stem 10–15 mm long, slightly broadened upward, the teeth about 3 mm long.

The first record of this variety from Japan was made by Prof. Nakai on the basis of Faurie 7329 from "dunes de Rebunshiri" in Hokkaido. Additional specimens available in KYO are:

JAPAN. Honsyû. Pref. Iwate: Matukawa, Toba 502. Pref. Isikawa: near Takosima, Suzu-gun, Yasuda s. n., Aug. 14, 1929: Mozu, Misaki-mura, Suzu-gun, Yosikawa 7, referable to f. *polystachya* Milde.[7]

7 Monogr. Equis. 523. 1867.